REMARKS

Reconsideration and allowance are respectfully requested in light of the above amendments and the following remarks.

Applicants acknowledge with appreciation the indication in the Office Action that claims 5-10 are allowable.

A new Abstract is submitted herewith as required by the Office Action.

Claims 1, 3, 5, 11, 12, 15, and 17 have been amended. Support for the feature added to claim 1 is provided by original claim 15. The changes to claim 15 are considered to be non-narrowing; therefore, no estoppel should be deemed to attach thereto.

Claims 1-4 and 11-17 were rejected, under 35 USC §102(e), as being anticipated by Lewis (US 4,796,192). To the extent these rejections are deemed applicable to the amended claims, Applicants respectfully traverse.

Claim 1 now recites:

> *A method for controlling a control surface of an aircraft, which control surface is controlled by a pilot and mounted on a stabilizer element of said aircraft, said control surface comprising at least two controllable control surface elements, each of said control surface elements being mounted so that it can rotate about an axis so that it can adopt any turn angle within a range of travel, in accordance with a control command, and said control surface elements being able to be controlled differentially, wherein,*

for at least one particular phase of flight of the aircraft, a first of said control surface elements is controlled as a priority and generates a force on said stabilizer element which is lower than the force generated by the second control surface element for the same turn angle of said first and second control surface elements.

Lewis fails to disclose at least the feature recited in claim 1 wherein, for a particular phase of flight of an aircraft, a first of multiple control surface elements is controlled as a priority and generates a force on a stabilizer element that is lower than the force generated by a second control surface element for the same turn angle of the first and second control surface elements. The Office Action proposes that Lewis discloses this feature in column 1, line 50, through column 2, line 25(Office Action section 5).

However, Lewis discloses a maneuver load alleviation system that reduces the wing root bending load on an aircraft automatically when a threshold load level is exceeded during high speed maneuvers or other critical maneuvers (Lewis col. 1, lines 5-10). This system has no effect on the control surfaces or the operation of the aircraft when the wing root bending moment is below a threshold (col. 1, lines 64-67). However, above the threshold, the system commands the trailing edge surface or outboard flap wing to maintain the root bending moment below the threshold value (col. 1, line 67, through col. 2, line 2). In

this system the midspan and inboard trailing edge flaps of the wing are free to respond to the aircraft control commands (col. 2, lines 3-5). Furthermore, the outboard trailing edge flap is free to respond to normal flight system commands below the threshold level (col. 2, lines 5-7).

For the phase of flight when priority is given to a particular one of multiple control surface elements, the claimed method controls the particular control surface element that will generate the least amount of force on a stabilizer element, on which the control surface elements are mounted, for the same turn angle of the multiple control surface elements. By contrast to the claimed feature, Lewis discloses giving priority to the element that will produce the greatest bending moment. This is the case because Lewis discloses giving priority to the outboard flap. Since the outboard flap has a longer moment arm than the inboard flap, the rotation of the outerboard flap will generate a greater bending moment than that generated by rotating the inboard flap the same amount. Thus, the claimed method controls the element that will minimize the load applied to a stabilizer and Lewis' system controls the element that will maximize the load applied to a stabilizer. As a result, Lewis does not identicaly disclose the subject matter recited in claim 1.

Accordingly, Lewis does not anticipate the above-noted subject matter of claim 1. Claim 15 similarly recites the features of method claim 1, but with respect to a system claim. Therefore, allowance of claims 1 and 15 and all claims dependent therefrom is warranted.

Moreover, the control surface according to the present invention is a surface for controlling the movement of the aircraft, for instance a rudder for controlling the yawing of the aircraft or an elevator for controlling the pitching of the aircraft (see for example, specification page 9, line 29, to page 10, line 3). This control surface is controlled by a pilot actuating a control, for example a rudder bar or a mini-stick, via a control unit and an actuator (see for example, page 10, line 5, to page 11, line 2). Thus, this control surface (which includes at least two control surface elements) is formed in order to generate a force. This control surface is such that it generates the lowest force on the stabilizer element (see for example, page 3, lines 26-38).

On the other hand, the trailing edge surfaces of Lewis are not control surfaces for controlling the movement of the aircraft and they are not controlled by a pilot. In fact, these trailing edge surfaces have a sole aim of reducing the airload on the output of a wing. To do this, these trailing edge surfaces are

controlled automatically (see Lewis col. 3, lines 4-21 and 41-60).

Furthermore, according to the present invention, the control surface element which generates the lowest force on the stabilizer element is controlled as a priority. This feature is completely different from the teaching of Lewis (outboard wing flat controlled as a priority), as proved by different exampes of the present invention. In fact:

- in the example of Figs. 4 and 5 relating to a horizontal stabilizer, the <u>inboard</u> control surface element (which generates the lowest force) is controlled as a priority (see specification page 15, lines 15-28); and

- in the example of Fig. 3 relating to a fin, the priority control surface element is not the same for different phases of flight (see specification page 14, lines 4-24).

With regard to claims 11, 12 and 15, Lewis' disclosure:

- does not relate to a fin, which is very different from a wing on an aircraft, and does not teach the computation of the product $F\delta \cdot F\beta$ (claims 11 and 12) and its use; and

- does not disclose:

. a control unit;

. a manually actuable control; and

. second means which are arranged between the control unit and actuating means and which generate differentiated individual turn commands (claim 15).

For these independent reasons, Applicants submit that allowance of claims 1-17 is warranted.

In view of the above, it is submitted that this application is in condition for allowance and a notice to that effect is respectfully solicited.

If any issues remain which may best be resolved through a telephone communication, the Examiner is requested to telephone the undersigned at the local Washington, D.C. telephone number listed below.

Respectfully submitted,

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--ABSTRACT OF THE DISCLOSURE

A system for controlling an aircraft control surface may include a control surface having at least two control surface elements mounted to rotate about an axis on a stabilizer element of the aircraft. An actuator with at least two actuating devices moves the control surface elements according to individual turn commands. Also, a first device determines a particular phase of flight of the aircraft. When the particular phase of flight is determined to exist by the first device, a second device generates differentiated individual turn commands for the actuating devices, according to an overall turn command received from a control unit, to provide prioritized control of the control surface element that generates the lowest force on the stabilizer element.--